

## OPTION-545VIP USB 200/400x Video Inspection Probe

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# **OPTION-545VIP**

## **USB 200/400x Video Inspection Probe**

### **Product Introduction**

**March 2014**

**Anritsu Corporation**

# OPTION-545VIP Product Introduction

## VIP Series Support Products

Mainframe	G0306A (Fixed x400 type)		OPTION-545VIP (Selectable x200/x400 type)	
	Live View	Pass/Fail Analysis	Live View	Pass/Fail Analysis
MT9090A Network Master™				
MU909014x/15x (μOTDR)	✓ (Ver.2.13 or later) *1		✓	✓ (Ver.2.10 or later) *1
MU909011x (DCFL)			✓	
MU909020A (OCA)			✓	
MU909060Ax (GigE)			✓	
ACCESS Master Series				
MT9083x2 Series ACCESS Master	✓ (Ver.1.09 or later) *1		✓	✓ (Ver.1.03 or later) *1
MT9083x/83x1 Series ACCESS Master			✓	
Others				
MX900030A with Windows PC *2	✓			
Windows PC software *3			✓	

\*1: Mainframe's software version

\*2: PC analysis software for G0306A (Support Windows XP, Windows 7(32bit, 64bit) and Windows 8(32bit, 64bit))  
The MX900030A is available from the Anritsu public web site.

\*3: PC analysis software for OPTION-545VIP (Support Windows XP)

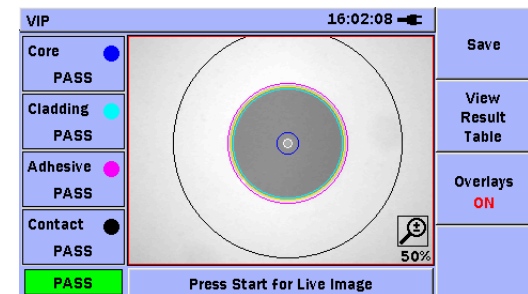
# OPTION-545VIP Product Introduction

## OPTION-545VIP Video Inspection Probe

Scratches and stains to optic fiber ferrule endfaces are often said to have a negative impact on transmission quality.

The OPTION-545VIP can be connected to an MT908x Series ACCESS Master, MT9090A Network Master Series product and PC, to show the state of a ferrule endface.

This function is effective for determining whether a ferrule endface is clean, and whether connector replacement is necessary due to connector scratches.



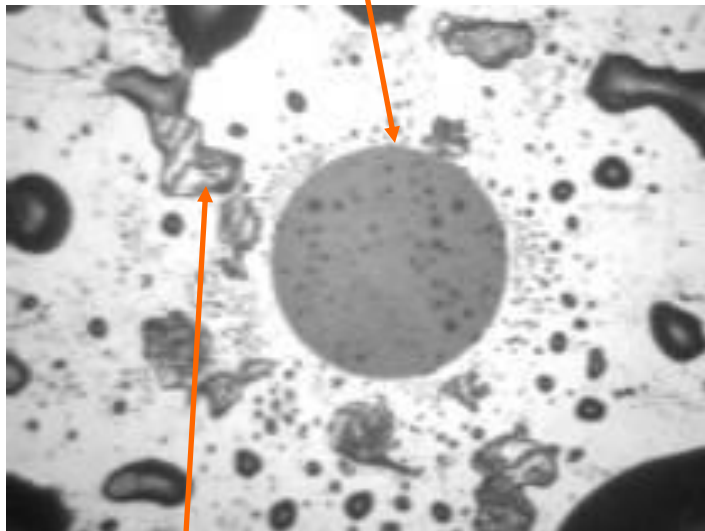
# OPTION-545VIP Product Introduction

## When a Connector Endface is Dirty...

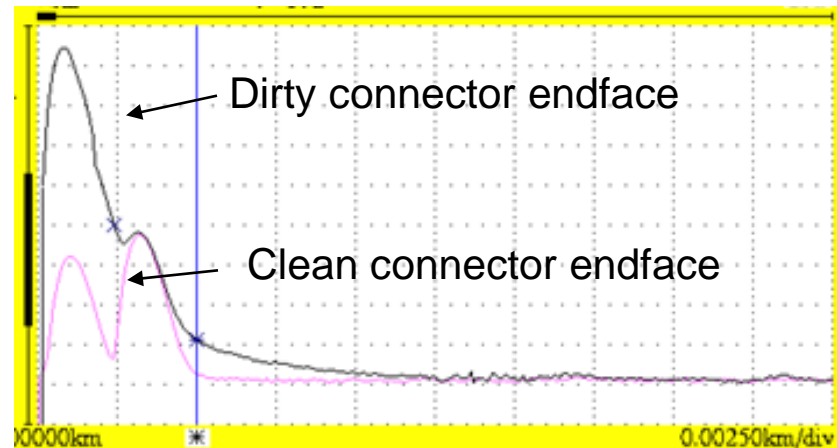
When a connector endface is dirty, it tends to produce a greater amount of reflection.

A good connection can be maintained by cleaning connector endfaces.

Optic Fiber Clad



Oil, Dust

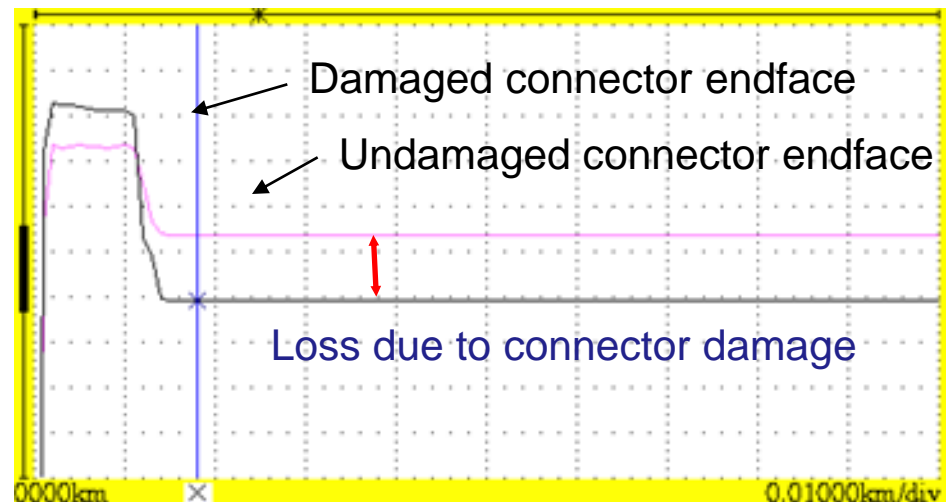
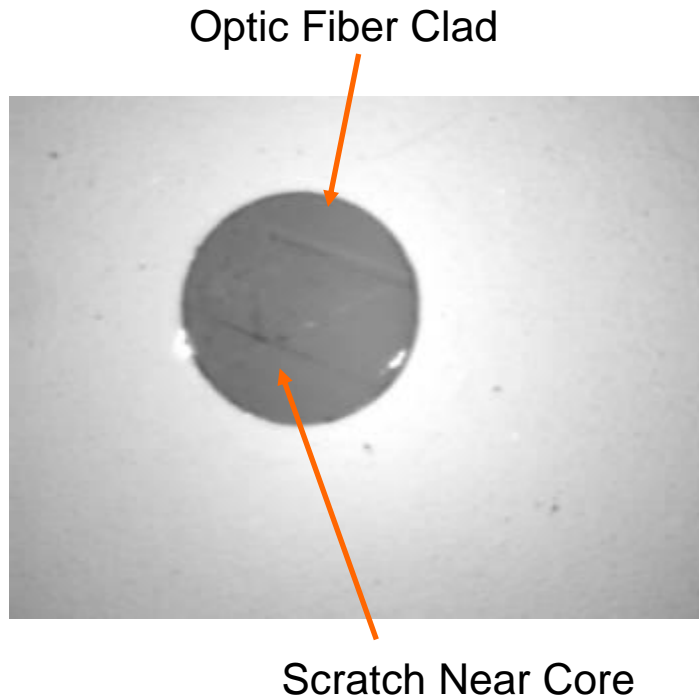


Verification through OTDR Output Port Connection

# OPTION-545VIP Product Introduction

## When a Connector Endface is Damaged...

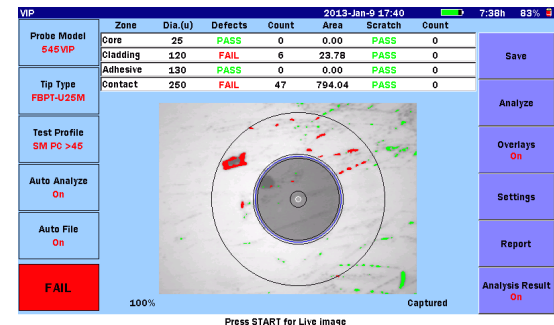
When a connector endface is damaged, in addition to having a greater amount of reflection, it also tends to exhibit greater splice loss. When the amount of reflection or loss caused by the damage is high, the connector port needs to be replaced.



Verification through OTDR Output Port Connection

# OPTION-545VIP Product Introduction

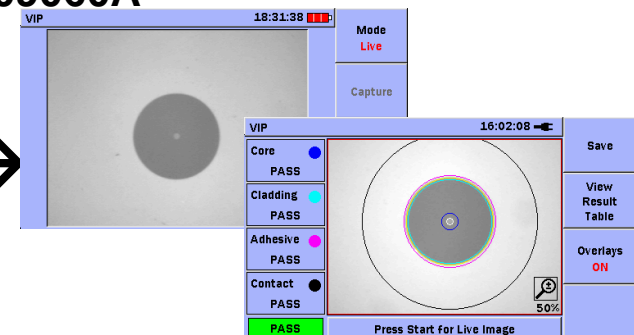
## ●MT9083x2 Series ACCESS Master



## ●MT9090A Series Network Master

μOTDR: MU909014/15

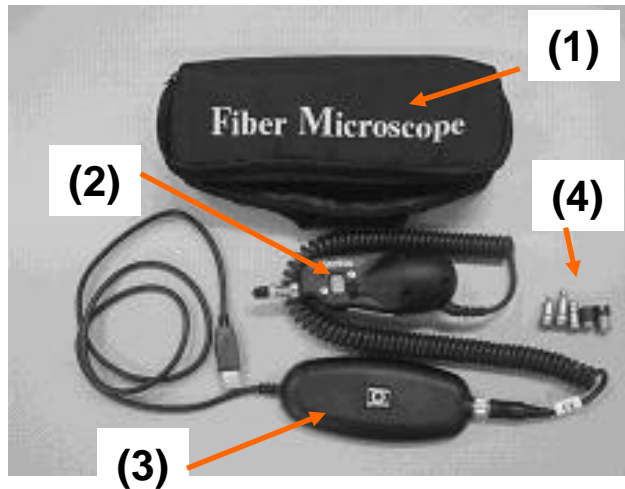
DCFL: MU909011, OCA: MU909020A, GigE: MU909060A



## ●Windows XP PC

*\*uOTDR include Pass/Fail analysis function (Software version 2.10 or later)*

# OPTION-545VIP Product Introduction



## OPTION-545VIP Video Inspection Probe

- (1) Standard Soft case
- (2) Video Inspection Probe
- (3) USB converter
- (4) Tips for measurement
- (5) Operation Manual
- (6) Software CD



## FS-PT-USB-CASE Hard case (Option)

- (7) Hard Case for VIP



# OPTION-545VIP Product Introduction

## OPTION-545VIP Accessories



Tips are connected to the end of the VIP based on the shape of connector (adapter) to be connected.

This unit comes standard with 5 types of tips.



**FS-PT-FC**  
For FC Connector  
Adapters



**FS-PT-ST**  
For ST Connector  
Adapters



**FS-PT-SC**  
For SC Connector  
Adapters



**FS-PT-U125**  
For 1.25mm  
Universal



**FS-PT-U25**  
For 2.5mm  
Universal

# OPTION-545VIP Product Introduction

## Examples of Tip Connection



Connected to OTDR output port ferrule endface



### ●Tips for FC Connector Adapters

As this figure shows, the ferrule endface of the connected fiber can be checked via this FC connector adapter.



### ●Tips for SC Connector Adapters

As this figure shows, the ferrule endface of the connected fiber can be checked via this SC connector adapter.

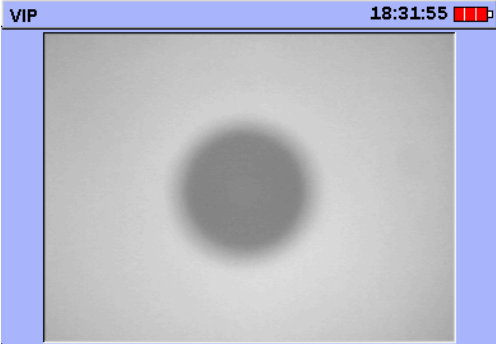


### ●Tips for 2.5mm Universal type

As this figure shows, the universal type tip can be used to directly plug into the ferrule for test.

# OPTION-545VIP Product Introduction

## Basic Video Inspection Probe Operation



18:31:55


Mode  
Live

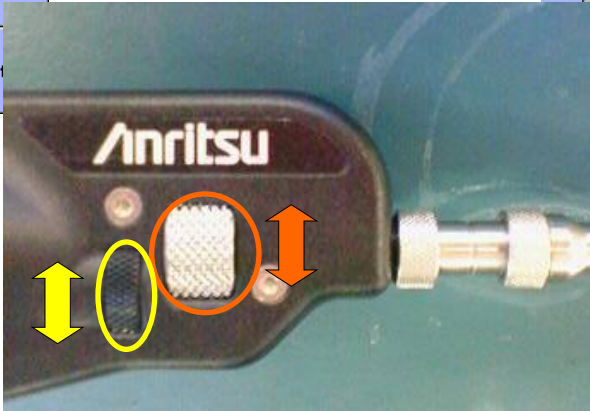
Capture

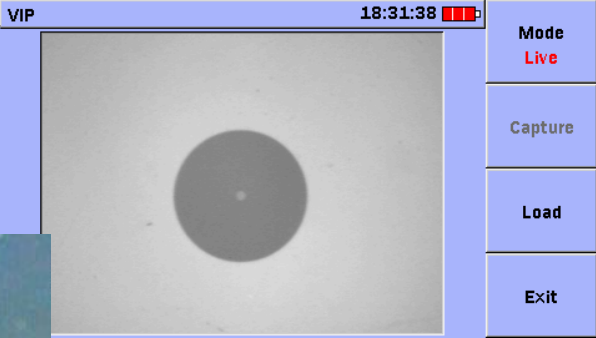
Load

Exit

Scroll up or down to adjust the focus.







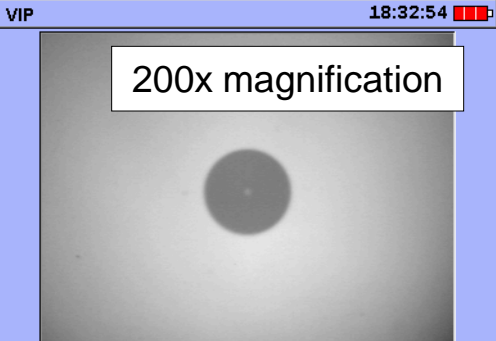
18:31:38

Mode  
Live

Capture

Load

Exit



18:32:54

Mode  
Live


Capture

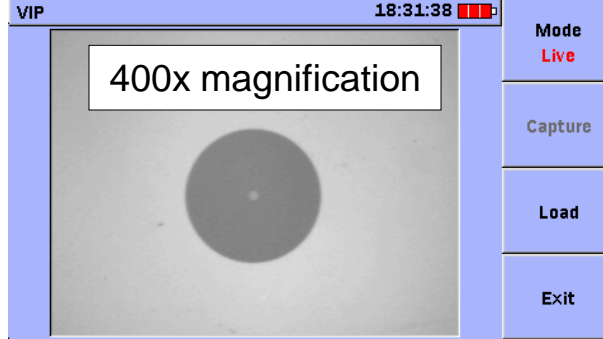
Load

Exit

200x magnification

Scroll up and down to select the magnification.  
The magnification is either 200x or 400x. Scroll all the way up or down.





18:31:38

Mode  
Live

Capture

Load

Exit

400x magnification

# OPTION-545VIP Product Introduction

## MT9083x2 Series

## ACCESS Master Measurement Example




1. The VIP USB terminal is connected to the MT9083x2 series instrument's USB port.

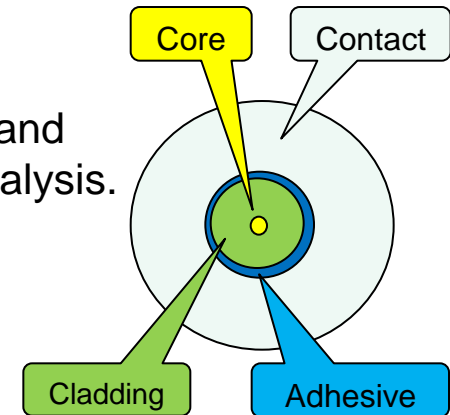
2. The power is turned on.  
"Video Inspection Probe" is selected from the top menu.

\*Before starting, select the appropriate tip for the connector adapter and ferrule type to be connected to.

# OPTION-545VIP Product Introduction

## Measurement Sequence

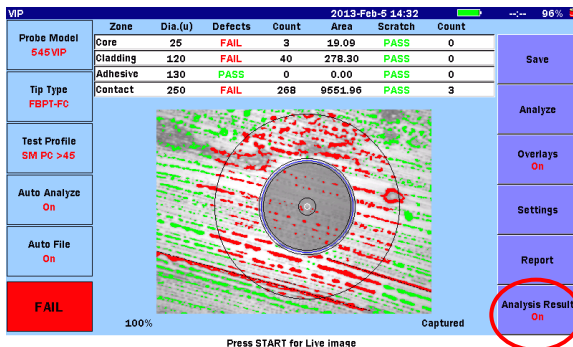
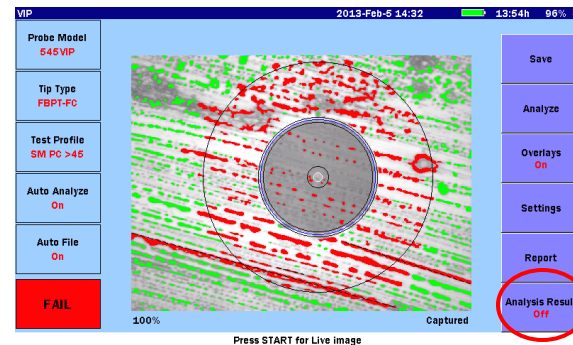
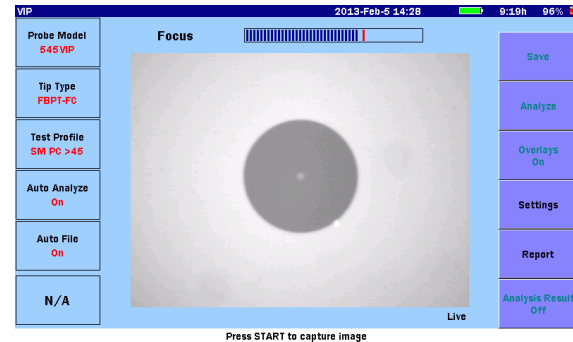
Adjust the focus in the Live screen, and press the Start  button to begin analysis.



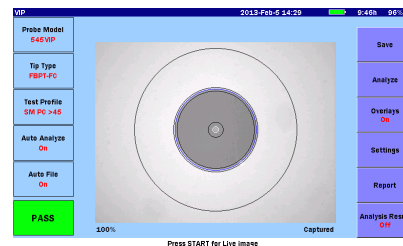
When analysis completes, the following information appears:

- Core
- Cladding
- Adhesive
- Contact

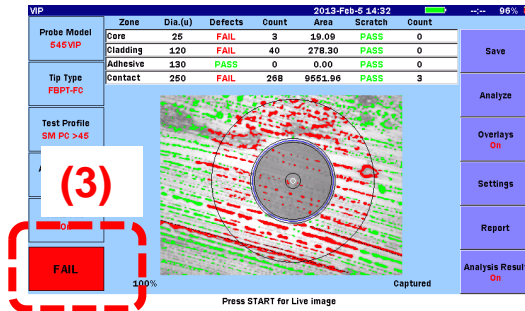
As well as a pass/fail determination for the total area for each.



Press f6 to toggle between Details (Table) and Image View.



# OPTION-545VIP Product Introduction



**FAIL**

From the Table View, you can identify “defects” or “scratches” on the end of the fiber.

Zone	Dia.(u)	Defects	Count	Area	Scratch	Count
Core	25	FAIL	3	19.09	PASS	0
Cladding	120	FAIL	40	278.30	PASS	0
Adhesive	130	PASS	0	0.00	PASS	0
Contact	250	FAIL	268	9551.96	PASS	3

(1)

(2)

**PASS**

Zone	Dia.(u)	Defects	Count	Area	Scratch	Count
Core	25	PASS	0	0.00	PASS	0
Cladding	120	PASS	0	0.00	PASS	0
Adhesive	130	PASS	0	0.00	PASS	0
Contact	250	PASS	0	0.00	PASS	0

- (1) Defects in each area.
- (2) Scratches in each area.
- (3) Overall determination for each area merging (1) and (2)

The automatic pass/fail determination is made in accordance with the IEC61300-3-35 standard.



# OPTION-545VIP Product Introduction

## Saving the Measurement Results

You can manage the measurement results in either of the following ways.

### Save to File

- Screen capture (PNG format)
- VIP data file (file with .vipi extension)

### Load from File

- PNG file
- VIP data file (file with .vipi extension)

You can also create a PDF report on the system.

2013-02-05 14:31:30

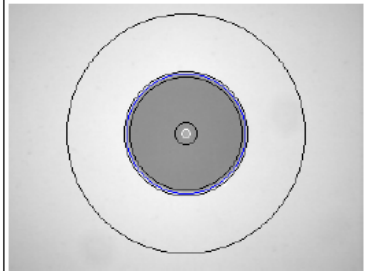
**VIP Test Result**

Probe Model	545VIP	Tip Type	FBPT-FC
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VIP Test Information	
Test Profile	SM PC >45
Analysis Result	PASS

Analysis Details						
Zone Name	Diameter	Defects	Count	Area	Scratches	Count
Core	25	PASS	0	0.00	PASS	0
Cladding	120	PASS	0	0.00	PASS	0
Adhesive	130	PASS	0	0.00	PASS	0
Contact	250	PASS	0	0.00	PASS	0

File Name



Capture Time 2013-02-05 14:28:59

Sample PDF Report

# OPTION-545VIP Product Introduction

## Examples of Measurement Using the MT9090A Series $\mu$ OTDR (MU909014/15)



**(1)** The VIP USB terminal is connected to the MT9090A's USB port.

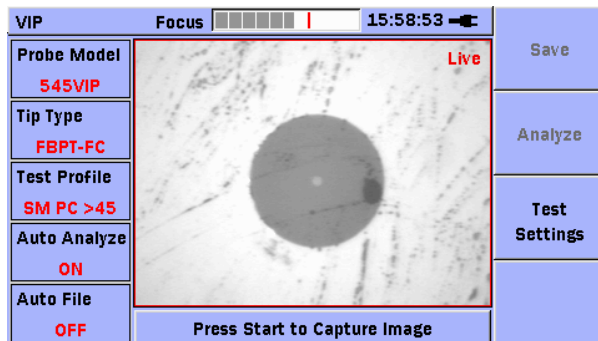
**(2)** The power is turned on. When unit has started up, the VIP screen will be displayed automatically.

\*The screen will also be displayed automatically if the VIP USB terminal is connected after the MT9090A has been started.


\*Before starting, select the appropriate tip for the connector adapter and ferrule type to be connected to.

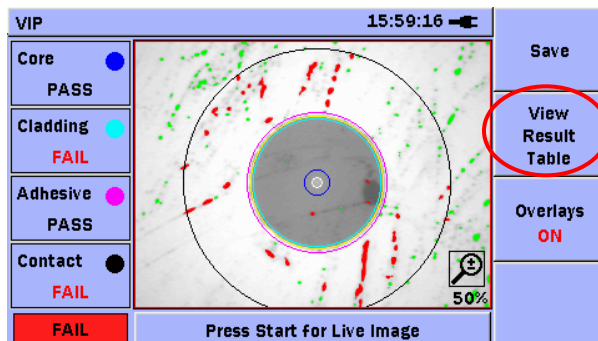
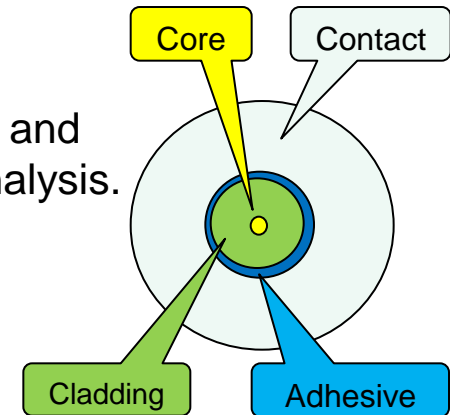


# OPTION-545VIP Product Introduction



## Measurement Sequence


Adjust the focus in the Live screen, and press the Start  button to begin analysis.



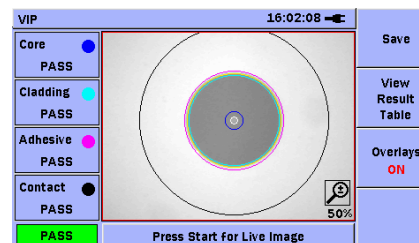
When analysis completes, the following information appears:

- Core
- Cladding
- Adhesive
- Contact

As well as a pass/fail determination for the total area for each.

VIP			15:59:27			<div>Save</div> <div>View Result Image</div>
	Zone Name	Diameter (μ)	Result			
1	Core	25	PASS			
2	Cladding	120	FAIL			
3	Adhesive	130	PASS			
4	Contact	250	FAIL			
	Defects	Count	Area (μ²)	Scratches	Count	<div>Overlays ON</div>
1	PASS	0	0.00	PASS	0	
2	FAIL	5	29.81	PASS	0	
3	PASS	0	0.00	PASS	0	
4	FAIL	85	1180.85	PASS	0	
FAIL		Press Start for Live Image				

Press F2 to toggle between Details (Table) and Image View.



# OPTION-545VIP Product Introduction

VIP 15:59:27					
	Zone Name	Diameter ( $\mu$ )	Result		
1	Core	25	PASS		
2	Cladding	120	FAIL		
3	Adhesive	130	PASS		
4	Contact	250	FAIL		
	Defects	Count	Area ( $\mu^2$ )	Scratches	Count
1	PASS	0	0.00	PASS	0
2	FAIL	5	29.81	PASS	0
3	PASS	0	0.00	PASS	0
4	FAIL	85	1180.85	PASS	0
FAIL		(1)	Press Start for Live (2)		

Save

(3) View Result Image

Overlays ON

From the Table View, you can identify “defects” or “scratches” on the end of the fiber.

- (1) Defects in each area.
- (2) Scratches in each area.
- (3) Overall determination for each area merging (1) and (2)

VIP 16:02:20					
	Zone Name	Diameter ( $\mu$ )	Result		
1	Core	25	PASS		
2	Cladding	120	PASS		
3	Adhesive	130	PASS		
4	Contact	250	PASS		
	Defects	Count	Area ( $\mu^2$ )	Scratches	Count
1	PASS	0	0.00	PASS	0
2	PASS	0	0.00	PASS	0
3	PASS	0	0.00	PASS	0
4	PASS	0	0.00	PASS	0
PASS		Press Start for Live Image			

Save

View Result Image

Overlays ON

The automatic pass/fail determination is made in accordance with the IEC61300-3-35 standard.

# OPTION-545VIP Product Introduction

## Saving the Measurement Results

You can manage the measurement results in either of the following ways.

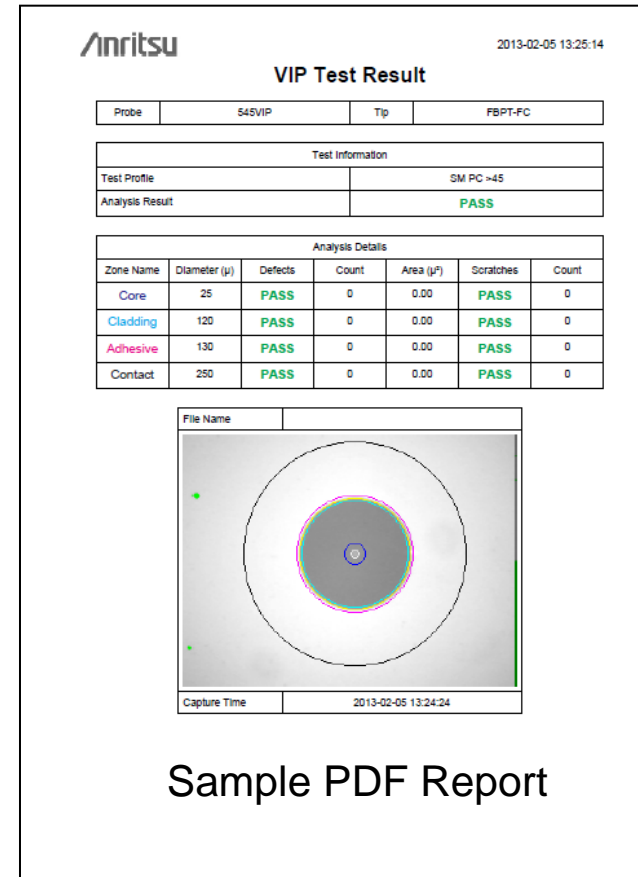
### Save to File

- Screen capture (PNG format)
- VIP data file (file with .vipi extension)

### Load from File

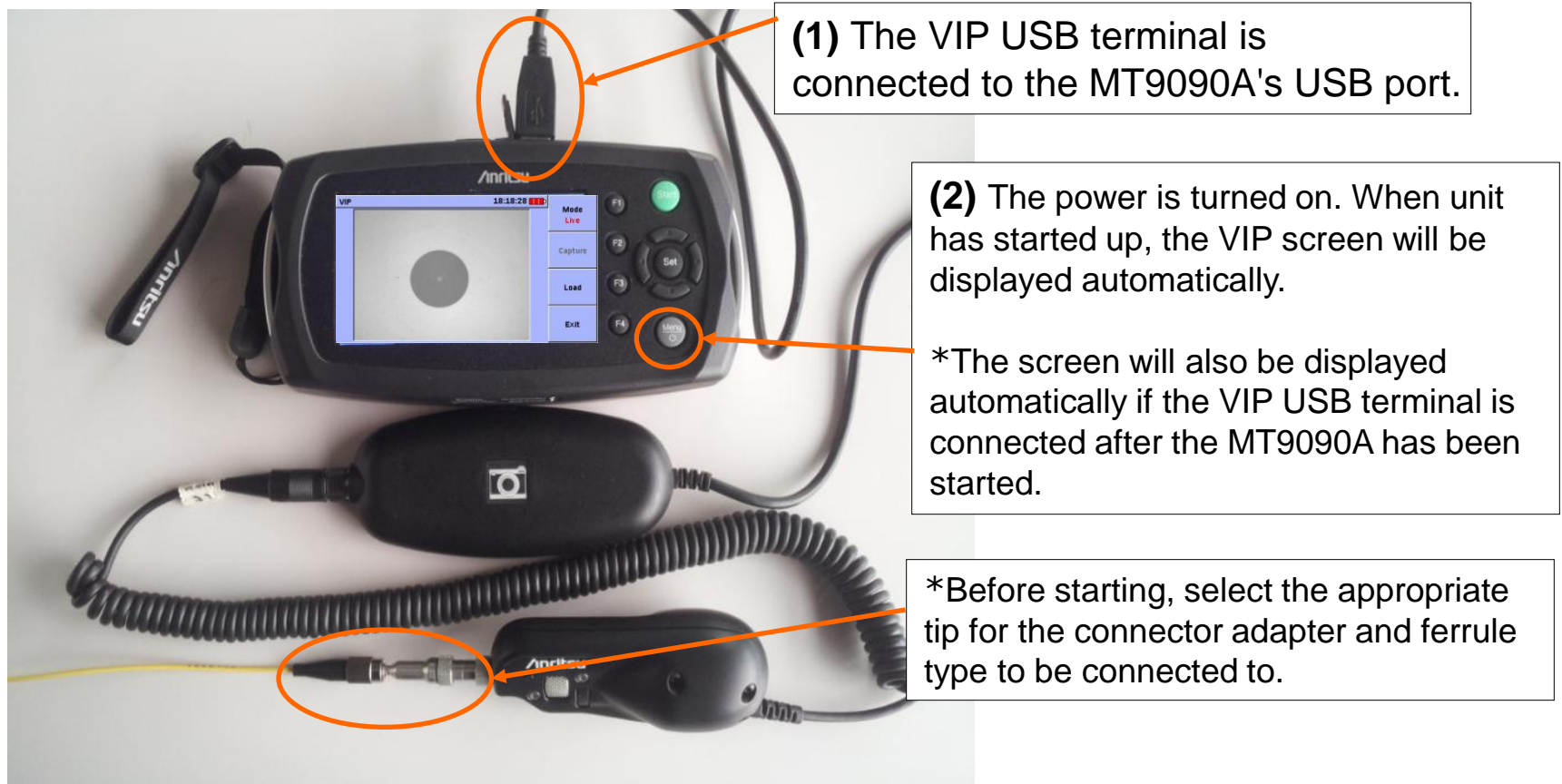
- PNG file
- VIP data file (file with .vipi extension)

You can also create a PDF report on the system.



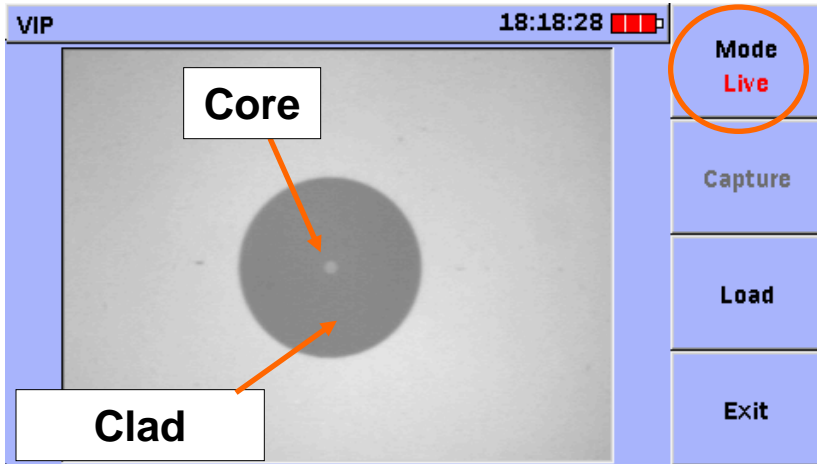
# OPTION-545VIP Product Introduction

## Examples of Measurement Using the MT9090A Series (MU909011, MU909020, MU909060)

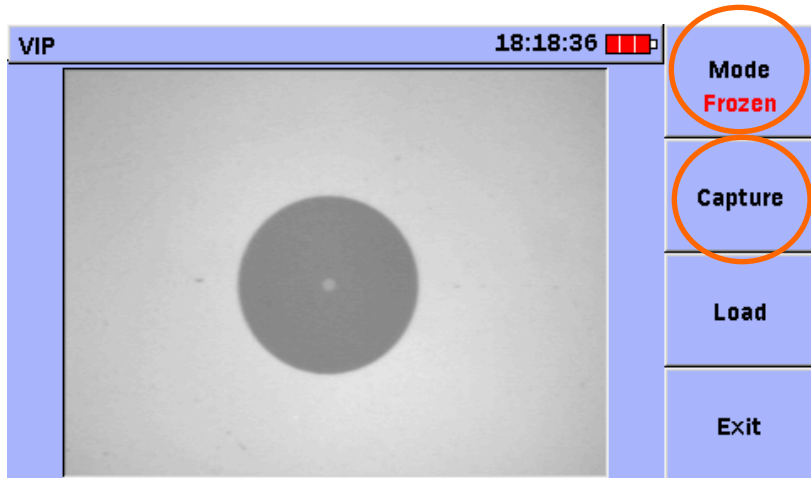


# OPTION-545VIP Product Introduction

## Measurement Screen (MU909011, MU909020, MU909060)



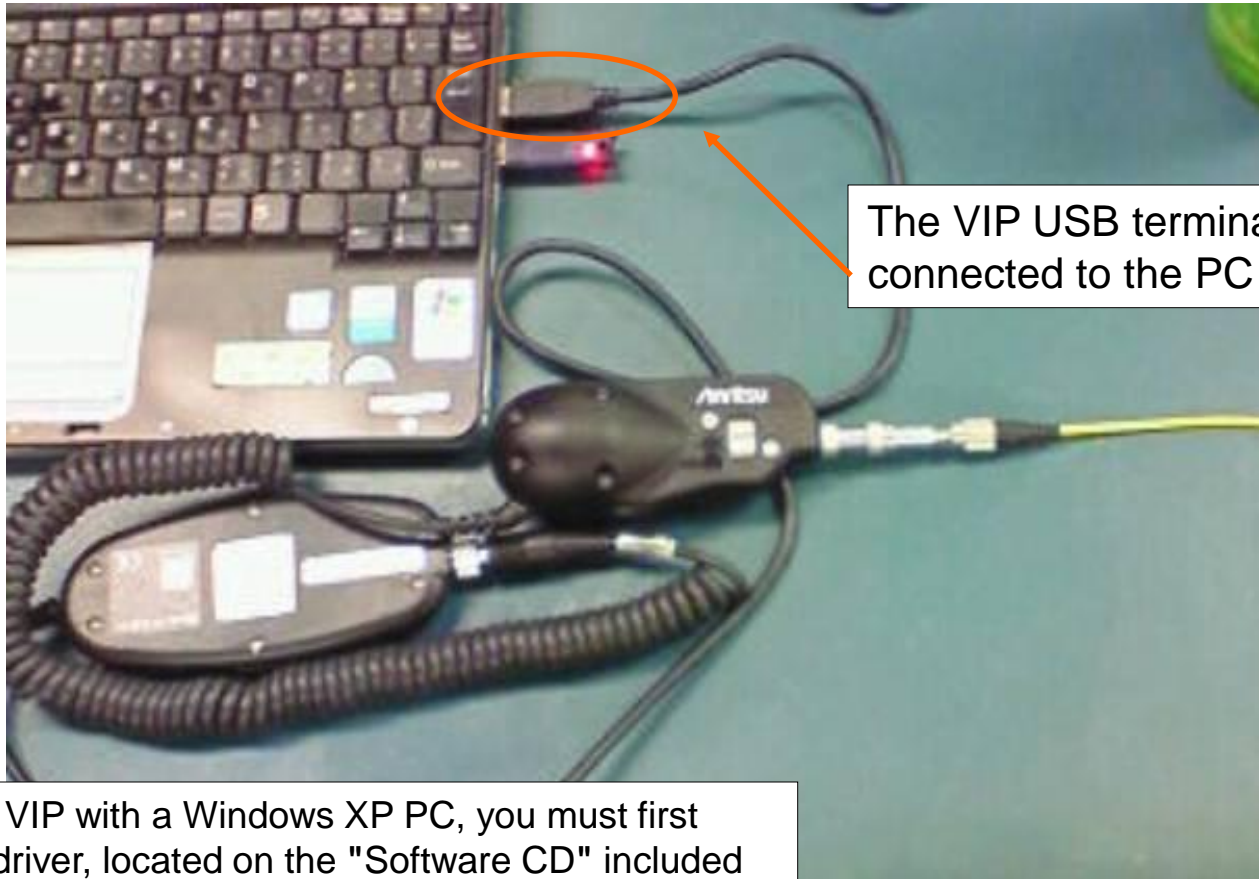
When "Live" is selected on-screen, the display screen will change in real time to reflect focus adjustments, etc. Use this display mode to check the status of the ferrule endface.



To save an image, press the F1 key on the MT9090A while the image you wish to save is displayed on-screen. The image display will change to "Frozen". Pressing the F2 key when the image is frozen will cause the MT9090A to save the image data to the internal memory (in png format).

# OPTION-545VIP Product Introduction

## Examples of Measurement With the Windows XP PC

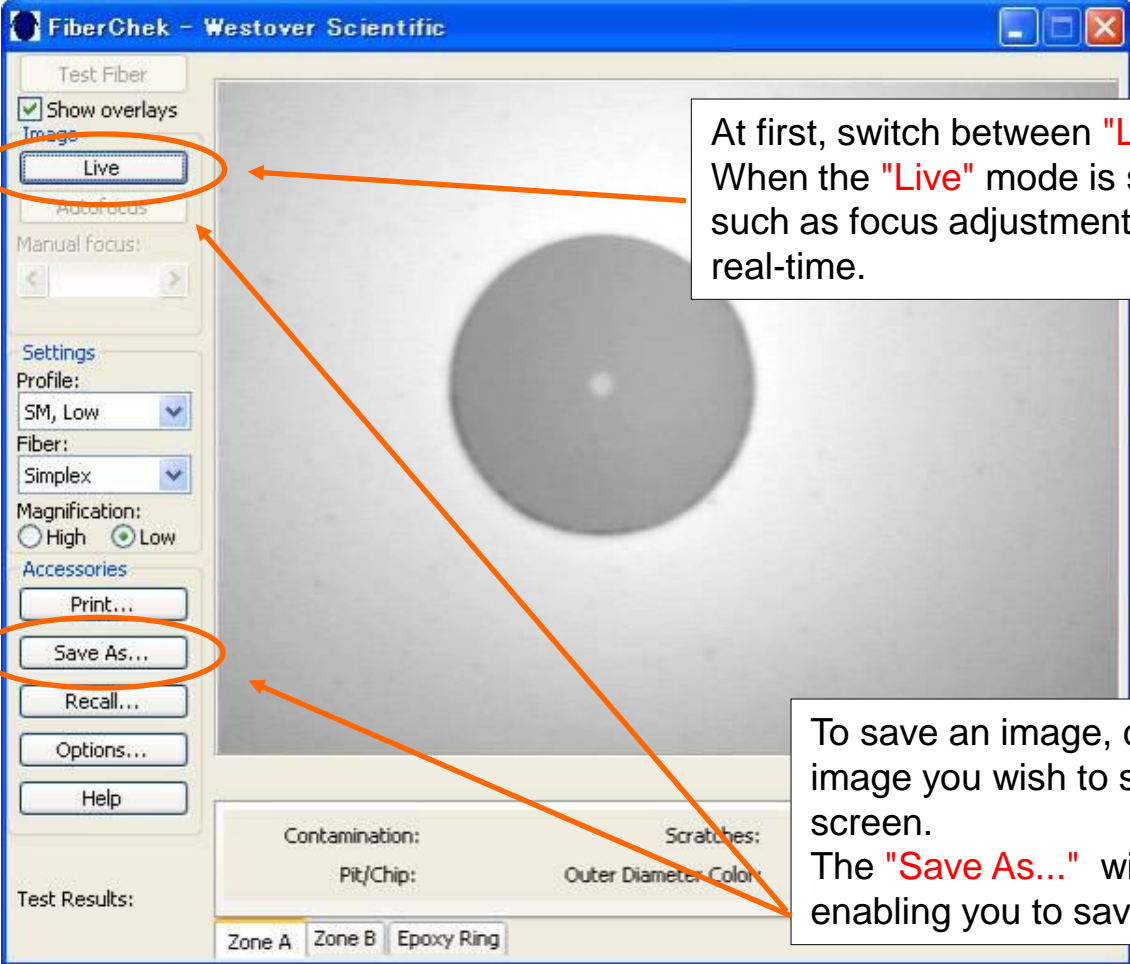


The VIP USB terminal is connected to the PC USB port.

To use the VIP with a Windows XP PC, you must first install the driver, located on the "Software CD" included as a standard accessory with the fiber scope.

# OPTION-545VIP Product Introduction

## Examples of Measurement With the Windows XP PC



The screenshot shows the FiberChek software window with a central grayscale image of a fiber. On the left, the 'Test Fiber' section has 'Live' selected under 'Image'. Below it, the 'Settings' section shows 'Profile: SM, Low', 'Fiber: Simplex', and 'Magnification: Low'. The 'Accessories' section has 'Print...', 'Save As...', 'Recall...', 'Options...', and 'Help' buttons. At the bottom, there are 'Contamination:', 'Scratches:', and 'Test Results:' sections. Two orange arrows point from text boxes to the 'Live' button and the 'Save As...' button.

At first, switch between "Live" and "Freeze". When the "Live" mode is selected, changes such as focus adjustments will be reflected in real-time.

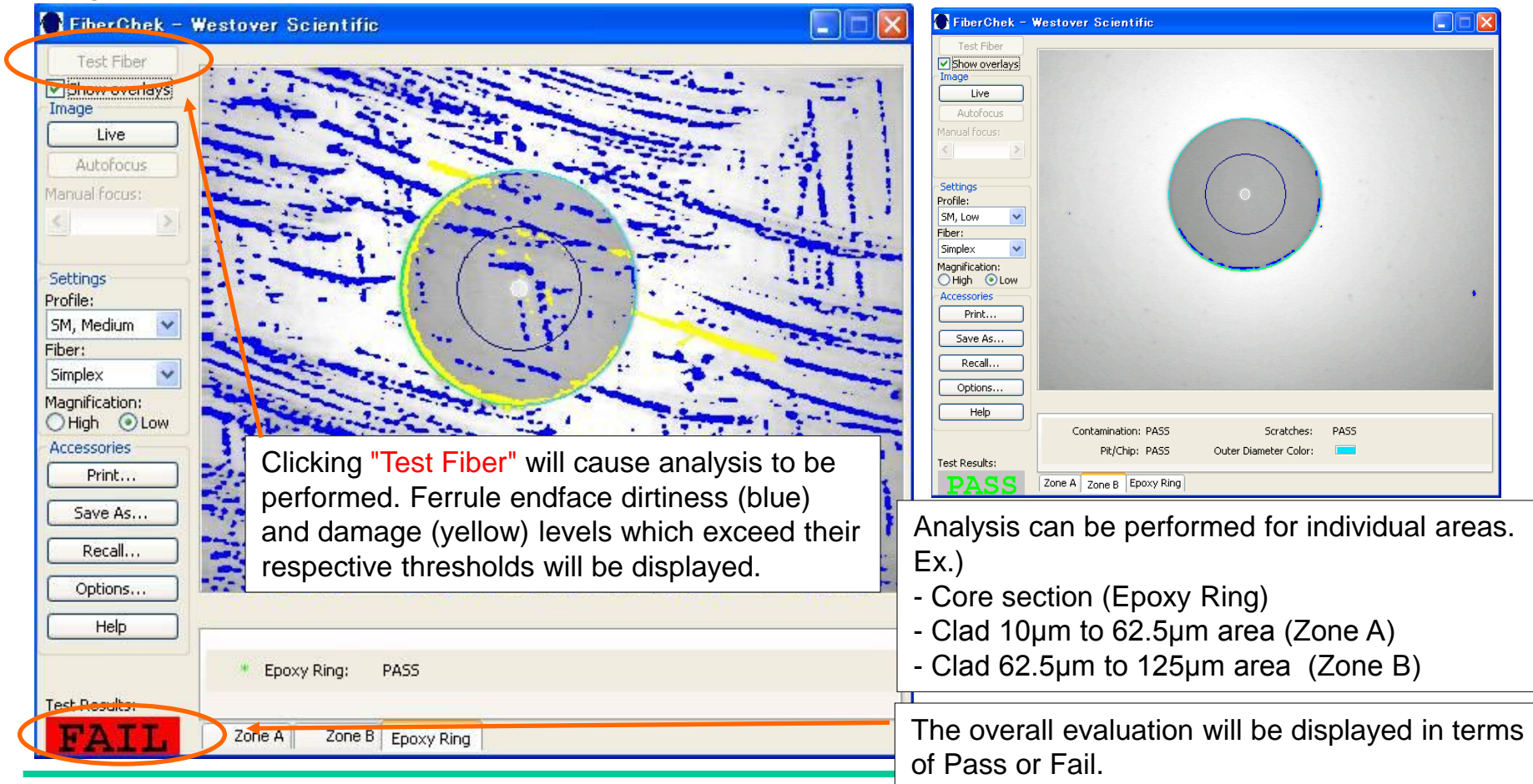
To save an image, click "Freeze" while the image you wish to save is displayed on-screen. The "Save As..." window will appear, enabling you to save the displayed image.



# OPTION-545VIP Product Introduction

## Performing Pass/Fail Evaluation

The ferrule endface's cleanliness, etc. can be analyzed on-screen, and Pass/Fail judgment can be performed.



Clicking "Test Fiber" will cause analysis to be performed. Ferrule endface dirtiness (blue) and damage (yellow) levels which exceed their respective thresholds will be displayed.

Analysis can be performed for individual areas. Ex.)

- Core section (Epoxy Ring)
- Clad 10µm to 62.5µm area (Zone A)
- Clad 62.5µm to 125µm area (Zone B)

The overall evaluation will be displayed in terms of Pass or Fail.

Slide 23

MT9090A-E-L-2

Anritsu



# OPTION-545VIP Product Introduction

## Ordering Information

Model No.	
OPTION-545VIP	200/400x Video Inspection Probe
	<b>- Standard accessories -</b>
	Tips (FC, SC, ST, 1.25mm universal, 2.5mm universal)
	Operation Manual
	Software CD
	Standard softcase
	<b>- Accessories -</b>
FS-PT-USB-CASE	Hard Case

### OPTION-545VIP Supported...

- MT9083x2 ACCESS Master
- MT9090A Network Master  
(MU909014/15:  $\mu$ OTDR, MU909011:DCFL, MU909020:OCA, MU909060:GigE)
- Windows XP PC

## ● United States

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Fax: +44-1582-731303

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Fax: +358-20-741-8111

## ● Denmark

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Fax: +45-7211-2210

## ● Russia

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## ● United Arab Emirates

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## ● India

### Anritsu India Private Limited

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## ● Japan

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## ● Korea

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